

In 2026  
copy 2

## CONTENTS OF VOLUME XIX

### ARTICLES

|   |     |
|---|-----|
| BANERJEE, K. S. Weighing Designs and Balanced Incomplete Blocks. . . . .  | 394 |
| BLISS, C. I., AND COCHRAN, W. G. Discriminant Functions with Covariance   | 151 |
| BRENNAN, J. F., AND HOUSNER, G. W. The Estimation of Linear Trends. .   | 380 |
| CAMP, BURTON H. Generalization to $N$ Dimensions of Inequalities of the<br>Tchebycheff Type. . . . .  | 568 |
| COCHRAN, W. G., AND BLISS, C. I. Discriminant Functions with Covariance   | 151 |
| DWYER, P. S., AND MACPHAIL, M. S. Symbolic Matrix Derivatives. . . . .  | 517 |
| EPSTEIN, BENJAMIN. Some Applications of the Mellin Transform in<br>Statistics. . . . .  | 370 |
| FELLER, W. On the Kolmogorov-Smirnov Limit Theorems for Empirical<br>Distributions. . . . .   | 177 |
| GURLAND, JOHN. Inversion Formulae for the Distribution of Ratios. . . . .   | 228 |
| HARRIS, T. E. Branching Processes. . . . .  | 474 |
| HARTMAN, PHILIP, AND WINTNER, AUREL. On the Effect of Decimal Cor-<br>relation on Errors of Observation. . . . .                                | 389 |
| HERBACH, LEON H. Bounds for Some Functions Used in Sequentially<br>Testing the Mean of a Poisson Distribution. . . . .                          | 400 |
| HOEFFDING, WASSILY. A Class of Statistics with Asymptotically Normal<br>Distributions. . . . .  | 293 |
| HOEFFDING, WASSILY. A Non-Parametric Test of Independence. . . . .  | 546 |
| HOEL, PAUL G. On the Uniqueness of Similar Regions. . . . .   | 66  |
| HOUSNER, G. W., AND BRENNAN, J. F. The Estimation of Linear Trends. .   | 380 |
| KAC, M. On the Characteristic Functions of the Distributions of Estimates<br>of Various Deviations in Samples from a Normal Population. . . . . | 257 |
| KEMPTHORNE, O. The Factorial Approach to the Weighing Problem. . . . .  | 238 |
| KENDALL, DAVID G. On the Generalized "Birth-and-Death" Process. . . . .   | 1   |
| KINCAID, W. M. Solution of Equations by Interpolation. . . . .  | 207 |
| LEHMANN, E. L., AND STEIN, C. Most Powerful Tests of Composite Hy-<br>potheses I. Normal Distributions. . . . .                                 | 495 |
| LOTKA, ALFRED J. Application of Recurrent Series in Renewal Theory. . .   | 190 |
| MADOW, WILLIAM G. On a Source of Downward Bias in the Analysis of<br>Variance and Covariance. . . . .   | 351 |
| MADOW, WILLIAM G. On the Limiting Distributions of Estimates Based on<br>Samples from Finite Universe. . . . .                                  | 535 |
| MACPHAIL, M. S., AND DWYER, P. S. Symbolic Matrix Derivatives. . . . .  | 517 |
| MOSTELLER, FREDERICK. A $k$ -Sample Slippage Test for an Extreme Popu-<br>lation. . . . .   | 58  |
| NANDA, D. N. Distribution of a Root of a Determinantal Equation. . . . .  | 47  |
| NANDA, D. N. Limiting Distribution of a Root of a Determinantal Equation  | 340 |
| PLACKETT, R. L. Boundaries of Minimum Size in Binomial Sampling. . .  | 575 |

|  |     |
|--|-----|
| RICHARDS, PAUL I. Probability of Coincidence for Two Periodically Recurring Events.....  | 16  |
| ROBBINS, HERBERT. Mixture of Distributions.....  | 360 |
| SILBER, JACK. Multiple Sampling for Variables.....   | 246 |
| STEIN, C., AND LEHMANN, E. L. Most Powerful Tests of Composite Hypotheses I. Normal Distributions.....                                     | 495 |
| TUKEY, JOHN W. Non-Parametric Estimation III. Statistically Equivalent Blocks and Multivariate Tolerance Regions—The Discontinuous Case.   | 30  |
| VOTAW, D. F., JR. Testing Compound Symmetry in a Normal Multivariate Distribution.....   | 447 |
| WALD, ABRAHAM. Asymptotic Properties of the Maximum Likelihood Estimate of an Unknown Parameter of a Discrete Stochastic Process.....      | 40  |
| WALD, ABRAHAM. Estimation of a Parameter when the Number of Unknown Parameters Increases Indefinitely with the Number of Observations..... | 220 |
| WALD, ABRAHAM, AND WOLFOWITZ, J. Optimum Character of the Sequential Probability Ratio Test.....   | 326 |
| WINTNER, AUREL, AND HARTMAN, PHILIP. On the Effect of Decimal Correlation on Errors of Observation.....                                    | 389 |
| WOLD, HERMAN O. A. On Prediction in Stationary Time Series.....  | 558 |
| WOLFOWITZ, J. AND WALD, ABRAHAM. Optimum Character of the Sequential Probability Ratio Test.....   | 326 |

## NOTES

|   |     |
|---|-----|
| ALBERT, G. E. Correction to "A Note on the Fundamental Identity of Sequential Analysis".....              | 426 |
| AROIAN, LEO A. The Fourth Degree Exponential Distribution Function..                                      | 589 |
| BACON, H. M. A Matrix Arising in Correlation Theory.....  | 422 |
| BIRNBAUM, Z. W. On Random Variables with Comparable Peakedness...   | 76  |
| CHUNG, KAI LAI. On a Lemma by Kolmogoroff.....  | 88  |
| CRAMER, G. F. An Approximation to the Binomial Summation.....   | 592 |
| DIXON, W. J. Table of Normal Probabilities for Intervals of Various Lengths and Locations.....            | 424 |
| GUTTMAN, LOUIS. A Distribution-Free Confidence Interval for the Mean                                      | 410 |
| GUTTMAN, LOUIS. An Inequality for Kurtosis.....   | 277 |
| HORTON, H. BURKE. A Method for Obtaining Random Numbers.....  | 81  |
| HSU, L. C. Note on an Asymptotic Expansion of the $n$ th Difference of Zero                               | 273 |
| JONES, HOWARD L. Exact Lower Moments of Order Statistics in Small Samples from a Normal Distribution..... | 270 |
| KINCAID, W. M. Note on the Error in Interpolation of a Function of Two Independent Variables.....         | 85  |
| KULLBACK, S. Correction to "On the Charlier Type B Series".....   | 427 |
| MACEDA, E. CANSADO. On the Compound and Generalized Poisson Distributions.....                            | 414 |

|   |     |
|---|-----|
| MARKS, ELI S. A Lower Bound for the Expected Travel Among $m$ Random Points.....  | 419 |
| MURPHY, R. B. Non-Parametric Tolerance Limits.....  | 581 |
| NOETHER, GOTTFRIED E. On Confidence Limits for Quantiles.....   | 416 |
| RASCH, G. A Functional Equation for Wishart's Distribution.....   | 262 |
| ROBBINS, HERBERT. Convergence of Distributions.....   | 72  |
| ROBBINS, HERBERT. The Distribution of a Definite Quadratic Form.....  | 266 |
| ROBBINS, HERBERT. The Distribution of Student's $t$ when the Population Means are Unequal.....                            | 406 |
| SMIRNOV, N. Table for Estimating the Goodness of Fit of Empirical Distributions.....                                      | 279 |
| TUKEY, JOHN W. Approximate Weights.....   | 91  |
| WALSH, JOHN E. On the Use of the Non-Central $t$ -Distribution for Comparing Percentage Points of Normal Populations..... | 93  |

## MISCELLANEOUS

|  |                    |
|--|--------------------|
| Abstracts of Papers.....   | 116, 428, 595      |
| Adoption of the New Constitution.....                            | 607                |
| Book Reviews.....  | 122, 282, 436      |
| Constitution and By-Laws of the Institute.....                   | 145                |
| News and Notices.....  | 127, 285, 438, 603 |
| Report of the Editor.....  | 144                |
| Report of the Institute Committee on Teaching of Statistics..... | 95                 |
| Report of the President of the Institute.....                    | 137                |
| Report of the Secretary-Treasurer of the Institute.....          | 141                |
| Report on the Berkeley Meeting of the Institute.....             | 132, 444           |
| Report on the Chicago Meeting of the Institute.....              | 136                |
| Report on the Madison Meeting of the Institute.....              | 608                |
| Report on the New York Meetings of the Institute.....            | 133, 290           |